

We claim:

1. A method of catalytically removing a pollutant contained in an exhaust gas of a combustion system, which comprises:

determining a time average for a concentration of a pollutant in an exhaust gas;

providing a catalytic converter designed for substantially complete conversion of the pollutant given stoichiometric metering of a reagent with respect to the pollutant;

introducing a substoichiometric amount of reagent, in dependence on the time average for the concentration of the pollutant, into the exhaust gas; and

conducting the exhaust gas with the reagent to the catalytic converter and reacting the reagent with the pollutant at the catalytic converter.

2. The method according to claim 1, wherein the introducing step comprises introducing the reagent into the exhaust gas in substoichiometric proportions with respect to the mean, such that a proportion of the pollutant which is actually converted at the catalytic converter is between 55 and 95%.

3. The method according to claim 2, which comprises introducing the reagent in substoichiometric proportions with

respect to the time average for converting substantially 75% of the pollutant.

4. The method according to claim 1, which comprises operating the combustion system with approximately temporally constant emission of pollutant, and thereby introducing the reagent in temporally constant substoichiometric proportions.

5. The method according to claim 1, wherein the step of determining the time average comprises measuring the concentration of the pollutant directly in the exhaust gas.

6. The method according to claim 5, wherein the step of determining the time average comprises measuring the pollutant with a pollutant sensor having a long response time.

7. The method according to claim 1, wherein the step of determining the time average comprises determining the time average on the basis of relevant operating parameters of the combustion system.

8. The method according to claim 1, wherein the reagent is ammonia.

9. The method according to claim 1, wherein the reagent is urea.

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10. The method according to claim 1, wherein the pollutants are nitrogen oxides and the providing step comprises providing a DeNOx catalytic converter for selective catalytic reduction process.

11. A device for catalytically removing a pollutant contained in an exhaust gas of a combustion system, comprising:

an exhaust pipe conducting an exhaust gas;

an introduction device communicating with said exhaust pipe for introducing a reagent into the exhaust gas;

a catalytic converter configured to conduct a flow of the exhaust gas and for reacting the reagent with a pollutant contained in the exhaust gas, said catalytic converter being configured to substantially completely convert the pollutant if the reagent is metered into the exhaust gas in stoichiometric proportions with respect to a concentration of the pollutant; and

a control unit connected to said introduction device for controlling a reagent throughput in said introduction device in dependence on the concentration of the pollutant in the exhaust gas, and for determining a time average of the concentration of the pollutant in the exhaust gas and for

metering in the reagent substoichiometrically according to the time average.

12. The device according to claim 11, wherein said control unit is programmed for substoichiometric metering of the reagent, such that a proportion of the pollutant being converted at said catalytic converter is between 55 and 95%.

13. The device according to claim 12, wherein said control unit is programmed to cause a 75% pollutant conversion.

14. The device according to claim 11, wherein said control unit is configured to form the time average during an operating state of the combustion system in which a pollutant emission is substantially constant.

15. The device according to claim 11, which comprises a pollutant sensor connected to said control unit and disposed at said exhaust pipe between the combustion system and said catalytic converter, said pollutant sensor detecting the concentration of the pollutant in the exhaust gas.

16. The device according to claim 11, wherein said control unit receives relevant operating parameters of the combustion system from sensor elements, and said control unit is configured to determine the concentration of the pollutant in

the exhaust gas on the basis of the relevant operating parameters.

17. The device according to claim 11, wherein said catalytic converter is a DeNOx catalytic converter in honeycomb form for removing nitrogen oxides with a reducing agent, said catalytic converter being formed of materials selected from the group consisting of titanium dioxide in a proportion from 70 to 95%, tungsten trioxide and molybdenum trioxide from 5 to 20%, and vanadium pentoxide at less than 5% by weight.